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MSX

COMPUTING

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What's Inside MSX Computing

Several Japanese computer makers have got together to bring out micros which all use the same BASIC and operating system.

This means that all software and peripherals will run on any computer using the same standard, designed by the U.S. company Microsoft and called MSX.

The first computers are due in the shops around September and they are set to revolutionise the way that software and hardware are sold.

Among the big names with MSX computers on the way are Hitachi, Teleton, Sanyo, Mitsubishi, Sony, Toshiba, Canon and Yamaha.

And industry sources say it will not be long before U.K., European and American manufacturers adopt the MSX standard.

This second issue of **MSX Computing** is designed to keep you up to date and to give you a flying start for when you buy your MSX computer.

You'll find out, on **pages four and five**, about plans by Britain's leading software houses to launch MSX titles.

On **page six** there's the views of the leader of Britain's electrical retailers, himself a computer expert.

And on **page seven** you can start learning MSX BASIC. And there's a UK first a listing to study and to keep for when an MSX computer joins your household.

● Watch out for the next issue of **MSX Computing** and stay ahead of the rest.

Contents



● Toshiba's HX-10 may be the first MSX micro to go on sale here



● A complete system from Hitachi — cassette recorder, monitor, H-1 computer with two cartridge slots, and joystick



● Some of the family of MSX micros. Clockwise from top left: Hitachi H-1, Teleton, Sanyo, Mitsubishi, Sony Hit Bit and Toshiba HX-10. Centre: Canon V-10

MSX: We're right behind you, say software houses

Software can make or break a computer. In the case of MSX, major software firms are pledging their support. Liz Graham reports

Now that the MSX standard is due to hit the scene, software will be compatible on all MSX machines. That's good news for both the micro user and the software houses, many of whom are welcoming MSX with open arms.

"It's about time someone did something standard," said Jon Day, sales manager at Kuma, breathing a sigh of relief. Virgin's Nick Alexander was also enthusiastic: "The idea of a standard is excellent. I wish there was only one standard." He went on to explain: "Our problems are really a microcosm of the public's problems, with regard to compatibility of software."

Software firms believe in the importance of their contribution to the popularity and success of computers. Dr David Potter, managing director of Psion, emphasised the essential role software has to play in a speech.

"In themselves the computers have no intrinsic benefit or worth," he said. Strong words: he went on to back his theory up: "It is software which makes them run and allows them to do such a huge diversity of things which are useful, educative, fun or plain mind boggling."

The future of MSX is assured, according to Dr Potter. Software houses will fall over themselves to support the machine.

"Having a widely based standard such as MSX will ensure a very wide library of software and peripherals. The consumer will therefore benefit."

So the prospective MSX owner can look forward to a wide choice of software, and of a high standard too.

"There is also no doubt whatsoever," stated Dr Potter, "that British software houses, who in this area are probably the most sophisticated in the world, will support MSX and will be among the world leaders in producing home software for this standard... MSX is a challenge to supply state of the art software."

Ocean's chairman, David

Ward, agreed with Dr Potter on the importance of software support. "It's the software that runs the computer," he said. "The Spectrum has tons of cheap software, and that's why so many people have bought it."

David Ward thinks MSX will also be a great boon for retailers. "It's the retailers who shift the goods and really control the market," he said. "The incompatibility of software has affected the dealings of software houses with retailers and chain stores."

"Software trading is very ephemeral and depends on fashion and mood," Mr Ward said. "Large chain stores have to place their orders in bulk, and they risk being left with stock they can't shift."

across national barriers," he said, "it also provides a very substantial opportunity for British software houses to trade internationally the other way as well. The potential for export sales through such a standard is very substantial indeed."

David Potter, on behalf of Psion, welcomes this opportunity particularly in the international market for Europe, the United States and even Japan.

Once the euphoria has died down, what the software houses' plans for MSX? Most are being cagey about their projects, no doubt having learned that it doesn't pay to broadcast new releases before they're ready.

think ZEN will be invaluable to users wishing to write and debug efficient assembly code programs.

"We're now waiting for the machines to be announced," he continued, "when our software will be ready the same day. One or two of the programs will be conversions but quite a few are new."

"At the moment three books are under way on how to program MSX, and we'll also have interfaces. By mid-July we should have released 12 titles and by August our full range of programs and books will be on the market."

It certainly looks like Kuma's been taking a lesson from the Japanese on preparation and forward planning.

Ocean is also planning to release games as soon as MSX is launched. David Ward said: "We're coding for MSX Hunchback, and Kong, which were both number one hits."

Ocean has made life easier for its programmers by introducing sophisticated equipment. "We've bought a development system which enables our programmers to write in much higher code," said David Ward. "This is then put through an emulator, with the result that programs can be written for MSX and the Spectrum simultaneously."

August is the scheduled launch date for Artic's MSX games. Bear Bover and Mr Wong's Loopy Laundry are first on the list and other games are in the pipeline.

Richard Turner, managing director of Artic, said: "We're looking at chess programs and arcade games. We'll probably be writing new games for both the Spectrum and MSX."

CDS is currently musing over what to do for its MSX range. Carol Howlett said: "First we will release our educational series, to teach yourself French, Spanish, Italian and German. Then in the autumn we'll be bringing out arcade/adventure games and simulations."

"We're working with the har-



● Mark Eyles of Quicksilver

"Special arrangements have had to be made," he went on. "Sometimes the cassettes are accepted on a sale or return basis and inventory adjustments have to be made." All this should be eliminated with the arrival of the new standard. David Ward sees this as a definite advantage for the chain stores.

It's good news all round — for home computer users, software companies and retail outlets.

David Potter also sees the advent of MSX as good news for Britain's export figures.

"While this standard in hardware terms will allow trading

Kuma leads the pack — it has already launched a program for MSX and plans to introduce 20 programs and several books about MSX by August.

Kuma's first release is the ZEN Editor/Assembler/Disassembler. It's reported to be a complete system for generation and analysis of Z80 assembly language programs. Included in the price (£19.95) are a symbolic assembler and disassembler, text editor and machine code monitor. The complete source code of ZEN itself is supplied to every user.

Jon Day, of Kuma, said: "We are developing a comprehensive range of utility and entertainment software for MSX. I

dicap that our machine has Japanese keys and our manual's not in English either," she grumbled.

Other software houses will wait for the pre-Christmas boom, when they'll spring their MSX ranges on the public. Quicksilva intends to get involved, despite the setback that they too only have Japanese machines.

"We're very keen," said Mark Eyles. "We have plans to back the computer very strongly, both with original titles and with conversions. We want to have our first MSX software out by Christmas. This is when the computers will be really heavily backed and we want to support them."

Bug-Byte is also looking to release MSX software before Christmas. A spokesman for Bug-Byte said: "We'll be converting old programs rather than writing new ones. When we produce new games, they'll be for the whole range of home computers, including MSX."

Silversoft aims to bring out educational and business orientated software, hopefully before Christmas. Director Dougie Bern thinks that it will be Christmas before the computers make a major impact.

Nick Alexander, of Virgin thinks it will be much longer before MSX holds a large proportion of the market. "We doubt that the hardware base will be significant before this time next year," he said. "We imagine there will be about a quarter of a million by this time in 1985, which will be worth catering for."

Virgin is working on MSX and is modifying some of its present games. "We aim to convert Falcon patrol and its sequel Falcon Patrol II, which hasn't been released yet, as well as Sorcery, our top-selling game for the Spectrum. We're working on Falcon Patrol now."

So it seems that at the beginning we'll see conversions of old favourites. However, as Dougie Bern, of Silversoft, says, the software industry needs new games ideas if it is to flourish.

"New ideas will have to be generated in the software industry," he said. "We can't just go on with copies of copies. We at Silversoft will be releasing new games."

The challenge to produce state of the art software, thrown down by David Potter, of Psion, may have been taken up by prestigious software houses, but if so nothing is being revealed. All developments are going on behind closed doors.

As for the computers themselves, the top brass at influen-

tial software firms were enthusiastic, but occasionally cautious. As Artic's Richard Turner said: "The advantage is that it will have five times the user base," which other software personalities were quick to emphasise.

The household names behind MSX are also a definite plus. Mark Eyles, of Quicksilva, said: "MSX looks very promising because of the well-known companies who are supporting it. It's sure to do well."

The marketing for MSX is very strong and the Japanese have clearly studied all possibilities before launching their models. Silversoft's Dougie

are exciting and the software included with the package is good.

"MSX is aimed at the over 25s, the less computer literate. The young computer-literate generation may regard it as an introductory computer and look down on it, but it's very good. It's intended for people who don't have much experience with computers and are a bit wary."

Mark Eyles of Quicksilva predicted reasonable market penetration in this country, and Richard Turner of Artic thought MSX looked very promising.

However, the praise has been tempered with some

MSX will be by-passed by broadly and open endedly defined innovation and technology brought by pioneers such as Sinclair and Commodore."

David Potter's thoughts were echoed elsewhere. Nick Alexander expressed concern mentioning that the chips were a year old and looked a bit long in the tooth, so did David Ward of Ocean, who called MSX the Cortina of the industry.

He added: "It seems to me to be a compromise between technical superiority and practicality. I don't think it's the state of the art." He also expressed healthy scepticism about the reality of compatibility. "I'll believe it when I see it," he said.

Dougie Bern, of Silversoft, was looking on the bright side. "I think it will only be a short-term standard," he said. "The Japanese are already working on an upgrade."

"Although not innovative, the technology is proven," he continued. "It's tried and tested. If a machine does what you want it to do then it doesn't matter what's in the box."

Dougie Bern also foresaw financial benefits from introducing a standard. The market penetration will be high and MSX is an obvious advantage in terms of development cost. It's moving away from the enthusiasts and more to the consumer orientated market."

He had a cynical explanation for the shortage of RAM chips throughout the world. "The Japanese manufacture RAM chips and have been withholding them to stunt the market and create an extra impact for their own computers," he speculated.

Dougie Bern predicted MSX prices would be slashed by the end of next year, perhaps as low as £70. He explained why. "The MSX is basically composed of three chips; the ZX80, video processor and the sound chip. At the moment they're all separate but the Japanese are working on putting them all on one chip. That should bring the price down dramatically."

His words echoed those of David Potter, who said: "What seems likely is that because of the standard and the volumes MSX can achieve, we will see custom MSX chips produced and manufactured, bringing lower and lower prices on the one hand and greater functionality of the standard in years to come."

The future looks very rosy for both software houses and MSX owners. As David Potter said: "Home computers have come of age."



● Some of the Virgin games to be converted for MSX



● Two Artic games out soon on MSX

Bern commented: "the force of marketing is much more sophisticated than is seen in the home computing field at present and servicing, back-up and support will all be excellent."

Nick Alexander of Virgin, added "The Japanese manufacturers have seen the size of the UK market and have the marketing experience and financial muscle to back them."

He was full of praise for MSX. "We think MSX will be one of the systems which succeeds. The BASIC MSX software isn't too advanced, but the graphics

hesitancy and criticism. The standard isn't innovative and doesn't cross any new thresholds. Some critics feel it will hamper the progress of microtechnology. David Potter, of Psion, expressed these fears in his talk at the MSX conference.

"The disadvantages of a standard are clear," he began. "It inhibits change. Microprocessors and microcomputer technology are still developing and will continue to do so. I believe their potential to develop very rapidly over the next five years is huge. The question remains as to whether

'Quality? You can rely on the Japanese . . .'

Retailers' leader Graham Knight collected his MSX micro in Japan nearly nine months ago. He gave Paul Liptrot his impressions

You can expect reliability from the Japanese MSX computers, said the president of the Radio, Electrical and Television Retailers Association.

Graham Knight has had MSX micros since he and 100 of his members visited Osaka in October.

He said: "What have sold Japanese products for nine-and-a-half years and so few break down that it's not worth charging.

"We've been using our Toshiba computers for 18 hours a day since October and they have not broken down. No-one would sell a car on the same basis.

"And the Japanese do keep their promises on availability. There could be limited supplies for some time, but they do not take orders for what they can't deliver."

Mr Knight, of Aberdeen-based Knight's TV and Radio, said that so far his firm had written 25 MSX programs — some of which may be supplied with each Toshiba micro sold. All of them were in BASIC so buyers could inspect them and see how they work.

Knight's had also made MSX cartridges and checked them for compatibility with 10 different computers, proving the standard. And he had orders for 40,000 cassettes.

He expected MSX to do the same for computers as VHS has done for video recorders.

He said: "People who come into my shop ask why they can't run BBC or Sinclair programs on other machines. It's very difficult to explain it to custom-

"The fact that one cassette will run on any computer has a great deal of appeal. The average parent doesn't understand and they are the purchasers of most computers."

Why didn't UK or European micro makers leave it to the Japanese to agree to adopt a compatible standard?

Mr Knight said: "I suppose that reflects the state of the UK

industry. It would have been nice for UK or European manufacturers to get together and set a standard.

"What will happen now is that the UK and European companies will join MSX. In fact I expect the number of MSX computers to double in 12 months."

Which MSX computer will come out on top in the UK?

Mr Knight said that in Japan MSX had captured 30-40 per cent of the market and of them Toshiba had sold most. And it was the Toshiba that he had brought back from Japan because it was a 64K model and many of the others were mostly 32K or 16K.

● How MSX computers are advertised in Japanese magazines



● Knight's system (from left); Toshiba cassette recorder, Toshiba 64K MSX micro with, in the cartridge slot, the first UK MSX cartridge, made by Knight's. Extreme right is a Toshiba MSX single 3 1/2 inch disc drive giving 360K of storage

What a knight! See how MSX BASIC works

In an exclusive to MSX Computing, Stuart Pirie, of Knights Computers, presents the first MSX program listing to appear in a UK magazine

The program starts with a purple M, a green S and a blue X advancing towards you.

Large filled-in letters remain on-screen and two sprites in the shape of knights then appear.

One knight bounces up and down and the other slides from side to side. The knight moving up and down has a higher "priority" than the letters on the high-resolution screen — it appears to pass in front of the letters, which can still be seen through gaps in the knight shape.

The horizontally moving sprite has a higher priority than the vertically moving one — it passes in front of it.

The sprite priority system means that, for example, a picture could be made up with hills in the background, clouds passing in front of the sun, an aeroplane could disappear into the clouds and pass in front of another plane, cars could be programmed to pass behind trees but in front of traffic lights and so on.

The MSX music commands are detailed in the description of line 170.

How it works

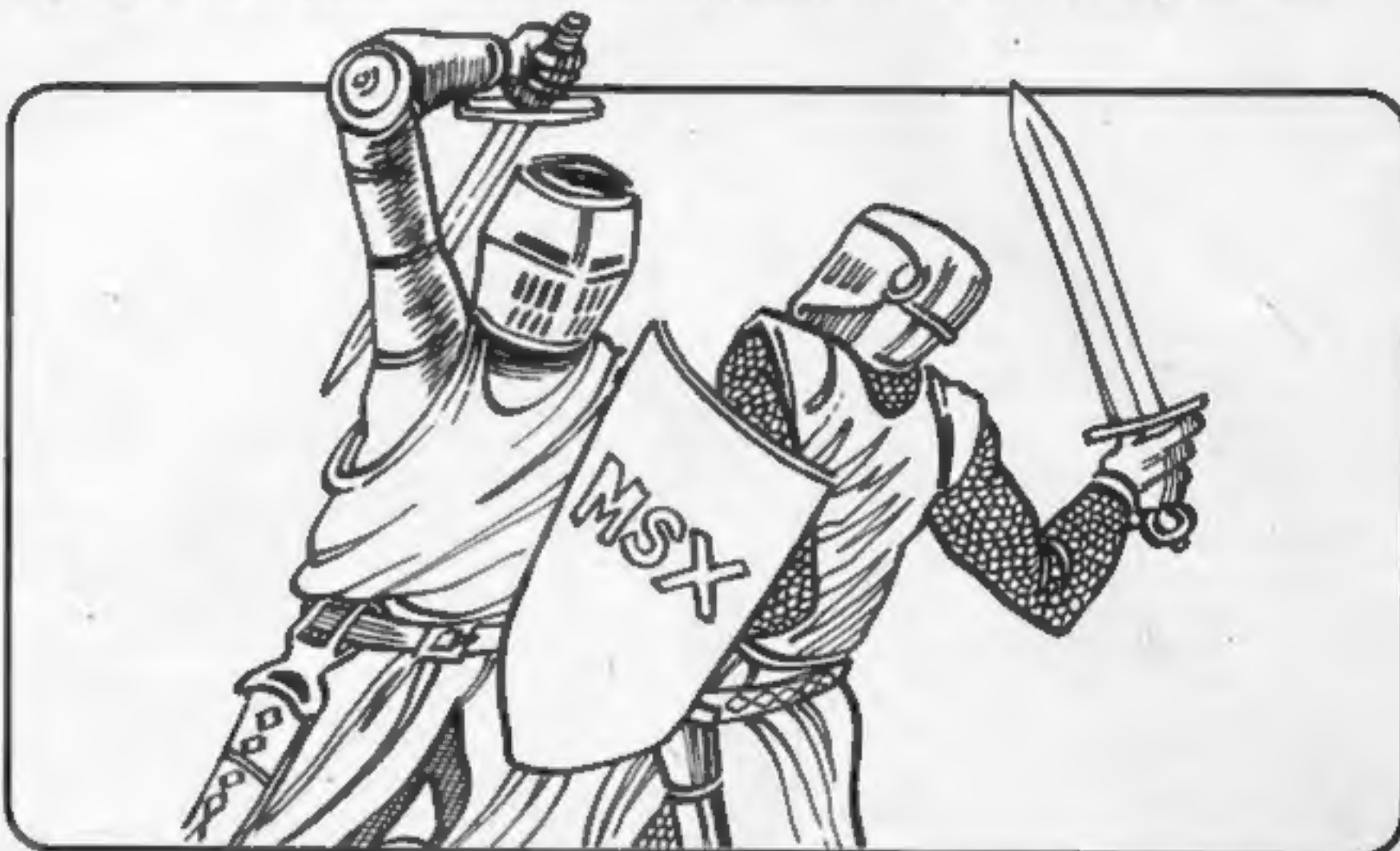
100 puts the MSX computer into high-resolution mode with a black background

130 draws the letter M in purple, S in green and X in blue. The FOR...NEXT loop in **110/140** controls the size of the letters MSX. The DRAW command allows users to draw lines of specified length in eight directions — the S parameter within the command sets the scale of all shapes drawn. This scaling feature allows shapes to be drawn in any of 64 sizes. In this program the letters MSX zoom up in eleven increasing sizes

150 fills in the letters MSX to make them solid blocks of colour

160 prints normal characters onto the high-resolution screen

170 plays music using the three voices — V sets the



volume, T sets the tempo, O sets the octave, L sets the length of the note, S sets the shape of the sound envelope, M sets the duration of the envelope. The rest of the letters are the actual notes to be played.

160-210 set up the shape of sprite number 0. MSX BASIC supports 32 sprite planes. The sprites can be 8 x 8 dots, 16 x 16 dots, magnified or unmagnified. An 8 x 8 unmagnified sprite is the same size as one character. An 8 x 8 magnified sprite is the same size as a square of four characters. The 16 x 16 magnified sprites — as used in this program — are the same size as a square of 16 characters

220 sets up the variables which hold the position and direction of the sprites

230 tells the BASIC to GOSUB 310 whenever any sprites collide with each other

240 instructs the program to GOSUB 300 whenever the space bar is pressed

250 displays the two sprites at their current positions, which are defined by variables X1% and X2%

260 updates the current positions of the sprites

270-280 reverse the sprite directions when they reach the edge of the screen
290 turns off any sound which has been generated by the

collision routine
310-330 change the colour of the sprites and make a noise when the sprites collide

```

100 COLOR 15,1,1:SCREEN 2,3
110 FOR F%=8 TO 28 STEP 2:S1%=F%*2
120 IF F%=28 THEN CLS
130 DRAW "BM4Q,1Q;S-F%;C13R2FER2D1QL2U8G
M0BL2U1Q5-S1%;BR4;C2R3DL2DR2D3L3UR2UL2U3
BR4;C5S-F%;F4E4D2G3F3D2H4G4U2E3H3U2"
140 NEXT F%
150 PAINT (41,11),13:PAINT (97,11),2:PAI
NT (153,12),5
160 OPEN "GRP:"AS#1:PRESET (30,160):PRIN
T#1,"SETTING THE NEW STANDARD":PRESET (8
2,170):PRINT#1,"(C) KNIGHTS":CLOSE#1
170 BEEP:PLAY "V15T2550JL6S9M2000C0CEFD0
", "V15T2550JL6S9M2000C0CEFD0", "V15T2550J
L6S9M2000C0CEFD0"
180 S$="":FOR F%=0 TO 31:READ AS
190 S$=S$+CHR$(VAL("2H"+A$)):NEXT F%
200 SPRITES(0)=S$
210 DATA 0,1,6,1D,2A,2A,2A,1F,4C,F7,F0,1
8,7,2,3E,FE,18,8F,65,11,09,A9,B1,F3,7F,9
F,31,41,81,81,F9,FD
220 X1%=10:X2%=10:S1%=3:S2%=3
230 ON SPRITE GOSUB 310:SPRITE ON
240 ON STRIG GOSUB 300:STRIG(0) ON
250 PUT SPRITE 0,(X1%,100),9,0:PUT SPRIT
E 1,(150,X2%),2,0
260 X1%=X1%+S1%:X2%=X2%+S2%
270 IF X1%<0OR X1%>210 THEN S1%=-S1%
280 IF X2%<0OR X2%>156 THEN S2%=-S2%
290 SOUND 8,0:GOTO 250
300 RUN
310 PUT SPRITE 0,,15:PUT SPRITE 1,,5
320 SOUND 7,8b11111110:SOUND 8,15
330 SOUND 0,2:RETURN

```

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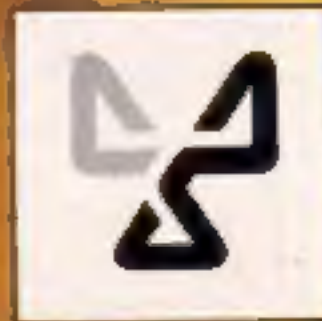
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